The Water Utility Enterprise

Final - March 1977

Santa Clara Valley Water District

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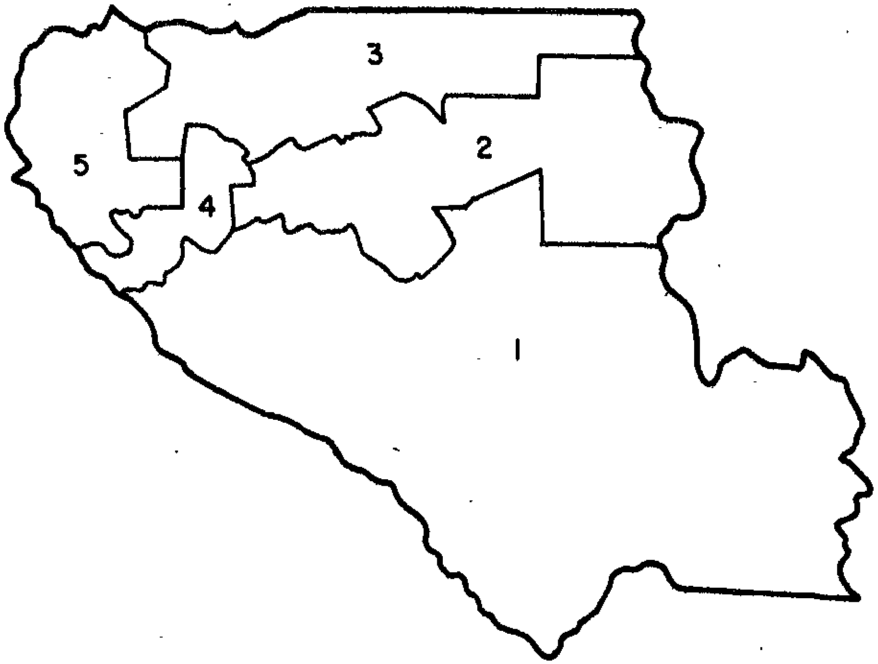

DIRECTORIAL DISTRICTS

Prepared by

William J. Hoeft, PE

and

Manuel J. Gomez, PE
Douglas A. Haines
Timothy L. McGarry, PE

Under direction of

Leo F. Cournoyer, PE
Division Engineer
Program Evaluation Division

John T. O'Halloran
General Manager

Lloyd C. Fowler, PE
Chief Engineer

David K. Gill, PE
Advanced Planning Manager

District Board of Directors

Joe Chiri	District 1	James J. Lenihan	District 5
Patrick T. Ferraro	District 2	Courtland M. Rush, Chairman	At Large
Robert T. Sapp	District 3	Linda Peralta	At Large
Maurice E. Dullea, Vice Chairman	District 4		

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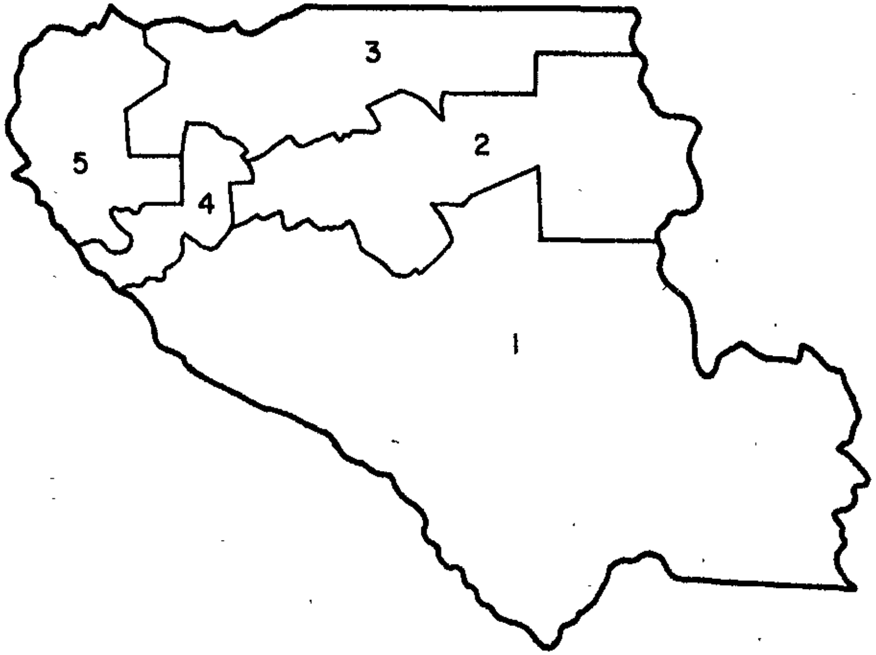

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AMERICAN REVOLUTION BICENTENNIAL 1776-1976

Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
SAN JOSE, CALIFORNIA 95118
TELEPHONE (408) 265-2600

In 1975-76, two major events impacted the Water Utility Enterprise. The 1975-76 water year was one of the driest on record, and legal action against the U. S. Bureau of Reclamation delayed the process of the District's securing an additional source of water from the San Felipe Division of the Central Valley Project.

The effects of the dry year were most severely felt in the South County where mandatory water rationing programs were implemented by the City of Gilroy. The effects in the North County were not so acute due to the reserve of water which had been accumulated in the groundwater basin during recent years. However, if the drought were to continue for another year or more, conditions in the North County could also become critical.

In May of 1976, the Environmental Defense Fund and the Sierra Club filed a lawsuit against the Bureau of Reclamation questioning the adequacy of the Environmental Impact Statement prepared for the San Felipe Division. This action has prevented the signing of the contract between the District and the Bureau of Reclamation and has delayed the start of construction of the project by at least one year. Because of this action, this report reflects a one year delay in the construction of those facilities proposed to handle water from the San Felipe Division.

As indicated in this report, the District's major expenditures for the next fiscal year will be for the continued operation and maintenance of existing facilities, refinements of the water resources master plan, wastewater reclamation studies, and for the construction of the Palo Alto Reclamation Plant and the East Reservoir. A water conservation program is also underway to reduce wasteful use of water.

The District's current tax and water rates will provide sufficient revenue to meet expenses for the next fiscal year. Thus, the current water rates of $34.00 per acre foot for municipal and industrial water and $8.50 per acre foot for agricultural water are recommended for 1977-78. These rates will apply in Zones W-2, W-3.1, W-3-2, W-3.3 and W-3.5. It is also recommended that the treated water surcharge rate remain at $41.00 per acre foot. No water charge rates are recommended for the two new zones, W-5 and W-6, in the South County for next year.

John T O'Halloran

John T. O'Halloran
General Manager

AN AFFIRMATIVE ACTION EMPLOYER

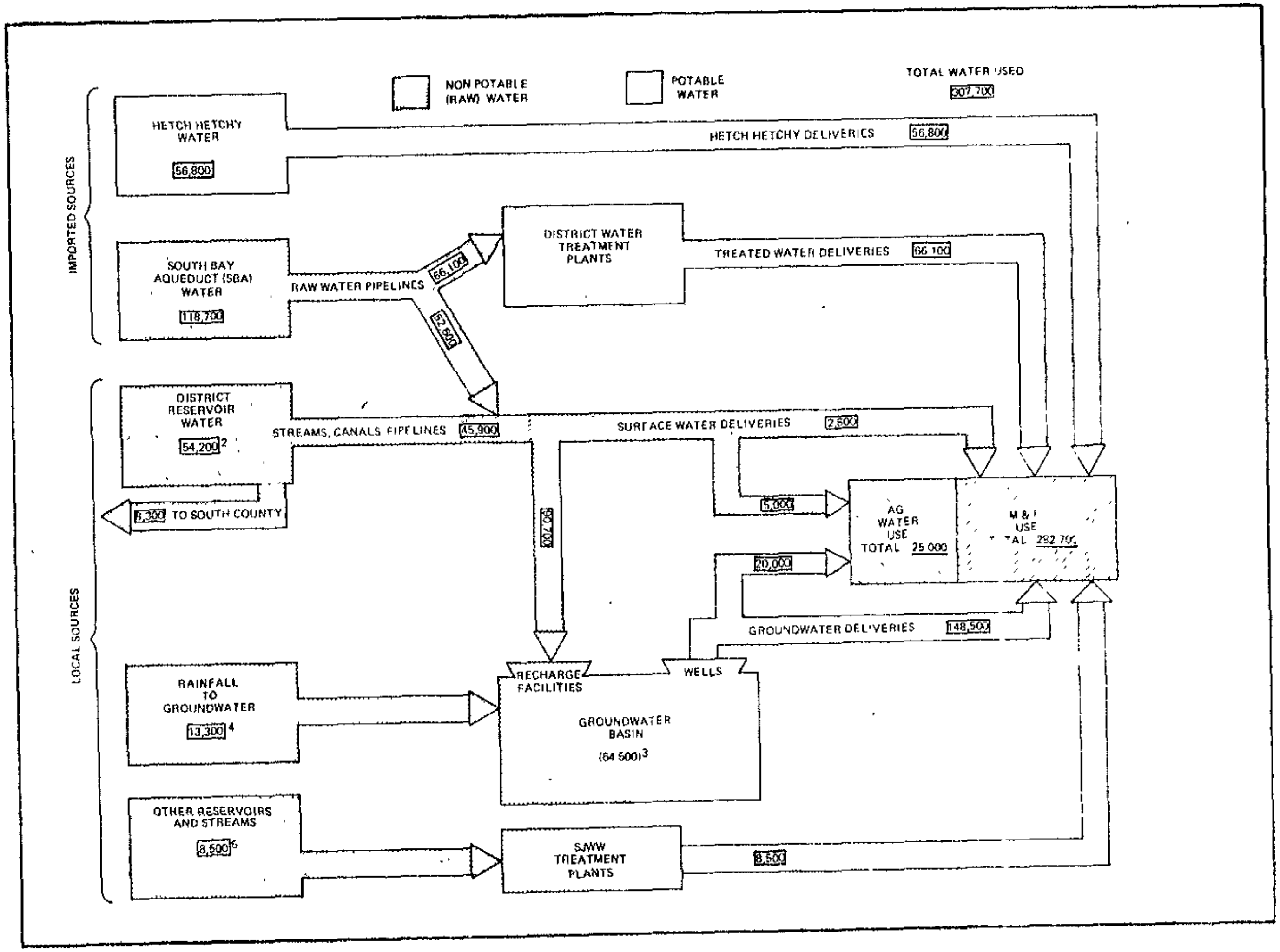
This is the sixth annual report on the status of the Santa Clara Valley Water District's Water Utility Enterprise. It has been prepared in accordance with Section 26.5 of the District Act. The purpose of this report is to provide current information on the following items:

- Present and future water requirements of Santa Clara County.
- Present and future water supply available to meet those requirements.
- Future capital improvement needs.
- Present financial condition of the Water Utility Enterprise.
- Future financial needs of the Water Utility Enterprise including expenditures and a means of financing them.

In keeping with the District Act, this report also contains:

- A recommendation as to whether or not water charges should be levied in any zone or zones of the District for the next fiscal year and, if any charges are recommended, the proposed water rates associated with the charges.

WATER SUPPLY AND USE
NORTH SANTA CLARA COUNTY
1975 – 76
(All Values in Acre Feet)[1]


NON POTABLE (RAW) WATER
POTABLE WATER
TOTAL WATER USED 307,700
IMPORTED SOURCES
HETCH HETCHY WATER 56,800
HETCH HETCHY DELIVERIES 56,800
SOUTH BAY AQUEDUCT (SBA) WATER 118,700
RAW WATER PIPELINES
66,100
52,800
DISTRICT WATER TREATMENT PLANTS
TREATED WATER DELIVERIES 66,100
LOCAL SOURCES
DISTRICT RESERVOIR WATER 54,200 2
STREAMS, CANALS, PIPELINES 45,900
SURFACE WATER DELIVERIES 2,500
5,000
90,700
6,300 TO SOUTH COUNTY
AG WATER USE TOTAL 25,000
M & I USE TOTAL 282,700
20,000
GROUNDWATER DELIVERIES 148,500
RECHARGE FACILITIES
WELLS
GROUNDWATER BASIN (64,500) 3
RAINFALL TO GROUNDWATER 13,300 4
OTHER RESERVOIRS AND STREAMS 8,500 5
SJWW TREATMENT PLANTS
8,500

---

1. Water quantities rounded to the nearest 100 acre feet.
2. Includes 2,800 acre feet of reservoir inflow and 51,400 acre feet withdrawn from water in storage from previous years
3. Withdrawn from groundwater storage resulting in an average 10 foot drop in groundwater level
4. Includes an estimated 10,000 acre feet of unmeasurable subsurface inflow
5. From previous year's storage

. . .to provide. . .Water"

The District was formed to provide the people of Santa Clara County with an adequate supply of water. To achieve this end, it has undertaken many activities to meet the following objectives:

- To manage the groundwater basins effectively and in an environmentally sound manner.
- To conserve local supplies of water through effective operation of reservoirs and groundwater recharge facilities.
- To conserve water supplies by reducing water use.
- To plan for alternative supplemental water supplies.
- To preserve and protect watersheds.
- To adopt and administer an equitable, fair pricing policy.
- To set water rates and tax rates which will provide a balanced cash flow while maintaining a reasonable, safe operating reserve.
- To perform all activities in an efficient, effective manner.

Water Use. . .

Water use in Santa Clara County is categorized as either agricultural or municipal and industrial. In each category, water is further classified with regard to the type of water delivered, namely, groundwater, local treated water, imported treated water (Hetch-Hetchy), and raw surface water. Water use has been recorded in the North County since 1964 and is summarized in the table to the right for the period 1964-65 through 1975-76.

Water use in South Santa Clara County, the area south of Metcalf Road, has been primarily agricultural and has been met by available local supplies, mainly from groundwater pumping. Since a formalized metering program has not yet been established in the South County, all information regarding water use in the area has been approximated from groundwater basin studies.

During 1975-76 water use was above average due to a dry year condition. In fact, the total water use in North Santa Clara County exceeded the recorded use of any year in the past decade.

Projections of future water use in North Santa Clara County indicate a long-term average increase of about 4,800 acre-feet per year through 1995, when the rate of increases will begin to gradually decrease. The total demand is expected to reach 420,000 acre-feet per year in 2020, as industrial and residential requirements continue to increase and agricultural use decreases.

Future annual water use in South Santa Clara County is projected to increase to about 125,000 acre-feet by 2020. It is anticipated that municipal and industrial water requirements will continue to increase while agricultural requirements will begin to decrease.

The above water use projections assume that effective water conservation measures will have reduced water requirements by 66,000 acre-feet per year by 2020.

RECORDED NORTH SANTA CLARA COUNTY WATER USE

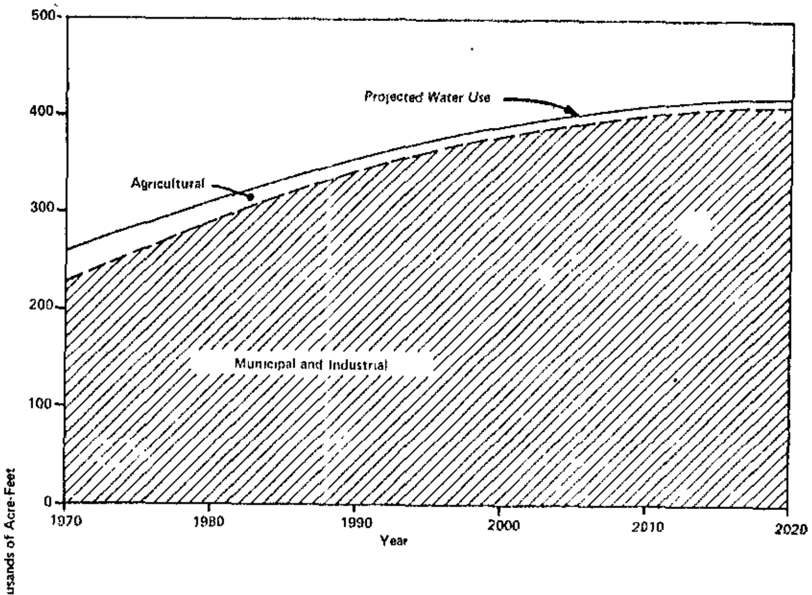
	Municipal and Industrial Water Use					Agricultural Water Use			Total
Fiscal Year	Ground Water	Treatment Plant Deliveries	Hetch Hetchy Aqueduct	Other Surface Water	Total Municipal and Industrial Use	Ground Water	Surface Water	Total Agricultural Use	Total Water Use
1964-65	119 618		29,536	17 991	162 145	37 935	5 593	43 528	205,673
1965-66	130 780		33,572	12 434	176 792	38 463	11 597	50 060	226 852
1966-67	127,550		35,784	12 795	176 129	28 863	3 447	32 310	208 439
1967-68	138,285	7,854	39,902	13 863	199,904	35 470	9 115	44,585	244 489
1968-69	135 058	11 208	41 675	12,881	200,822	28 501	8 305	36 806	237,628
1969-70	125,099	39 157	48,349	16,647	229 252	29,312	4 889	34 201	263 453
1970-71	124,264	44,452	45,207	14,035	227 948	23 691	4 428	28,119	256 067
1971-72	142,180	48 837	49,877	10,214	251 108	24 018	4 796	28 814	279,922
1972-73	137,796	44,992	48,890	16,167	247,845	17 458	4 247	21,705	269,550
1973-74	128,997	45,478	52,187	22 168	248 830	15 864	3 039	18 903	267 733
1974-75	120 400	67,400	53,400	20,000	261,200	16 900	3 500	20 400	281 600
1975-76	148,506	66,075	56 837	11,288	282,706	20 002	4 964	24 966	307,672

[1] All values are expressed in acre feet. One acre foot equals 326 000 gallons

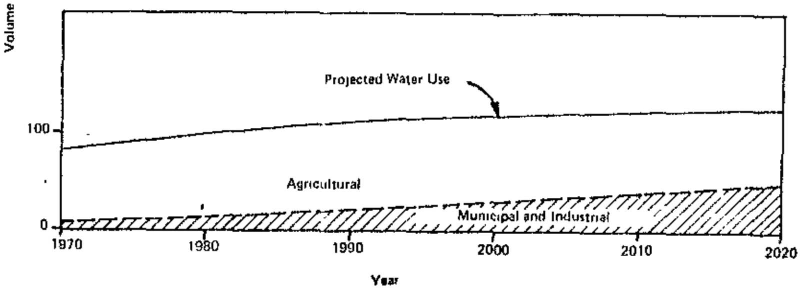
[2] Consists of water stored and treated by San Jose Water Works and untreated water delivered by District

WATER USE PROJECTIONS

NORTH SANTA CLARA COUNTY



SOUTH SANTA CLARA COUNTY



. . .and Water Supply

HISTORICAL WATER SUPPLIES IN NORTH SANTA CLARA COUNTY

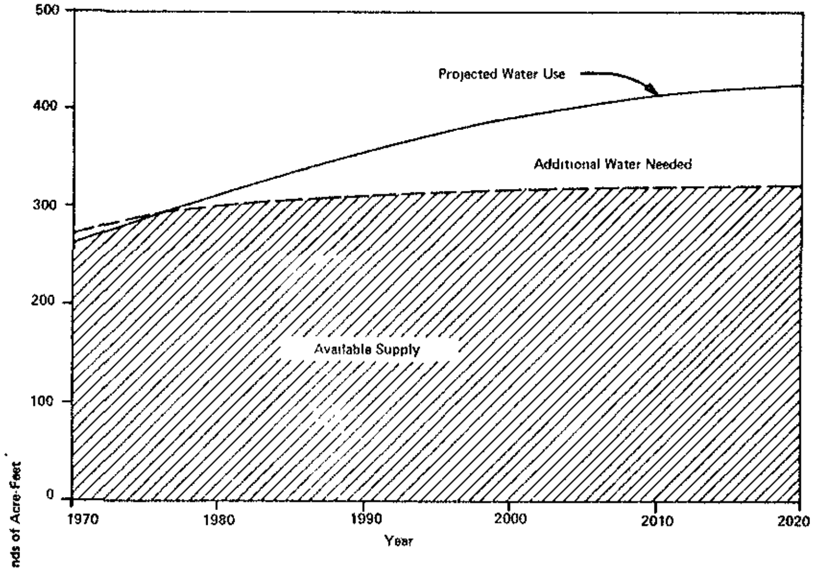
Fiscal Year	Local[1] Conserved Water	Hetch Hetchy Aqueduct Deliveries	South Bay Aqueduct Deliveries	Net[2] Supply
1964-65	167 342	29 536	495	197 373
1965-66	68,127	33,572	23 353	125 052
1966-67	343 989	35 784	31 766	411 539
1967-68	191,887	39 902	63,000	294 789
1968-69	180,892	41,675	57 661	280,278
1969-70	106,471	47,203	77,234	230,908
1970-71	97 232	45,228	88 488	230 948
1971-72	25 802	49 744	92 150	167 696
1972-73	250,576	48,890	92 584	392 050
1973-74	199,061	52,187	86 565	337 833
1974-75	133,656	53,400	104,000	291,056
1975-76	16 100	56,837	118 692	191 629

[1] Water conserved in surface reservoirs and groundwater basin the average annual yield under present conditions is 165,000 acre feet

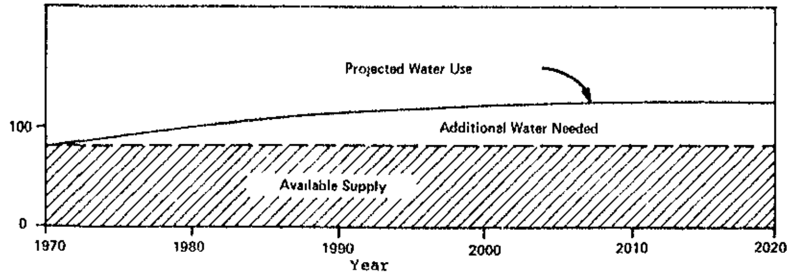
[2] Net Supply excludes all water losses

WATER SUPPLY PROJECTIONS

NORTH SANTA CLARA COUNTY



SOUTH SANTA CLARA COUNTY



Present water supplies in North Santa Clara County consist of locally conserved water (reservoirs and groundwater basin) and water imported from the Hetch-Hetchy and South Bay Aqueducts. The supplies that have been available in North Santa Clara County are listed in the table to the left for the period 1964-65 to 1975-76.

In 1975-76 the supply of water in North Santa Clara County was substantially below that of 1974-75 as the result of a below average rainfall year. As shown, very little local water was conserved.

In South Santa Clara County, the present water sources are naturally recharged groundwater and water captured in surface reservoirs. These sources supply about 79,000 acre-feet of water in an average rainfall year. As in the North County, the local water supply during 1975-76 was negligible due to the lack of rainfall.

As a result of the current drought condition, water use is exceeding the available supplies and more water is being taken out of the water pool than added. Until additional supplemental water supplies are available, it is expected that the groundwater basins in the County will have to function in a water deficit condition. Recognizing this need for additional water, the District Board of Directors has, after considering several sources of supplemental water, selected the San Felipe Division as the best alternative to serve the County's future water needs.

In-County Water Distribution System...

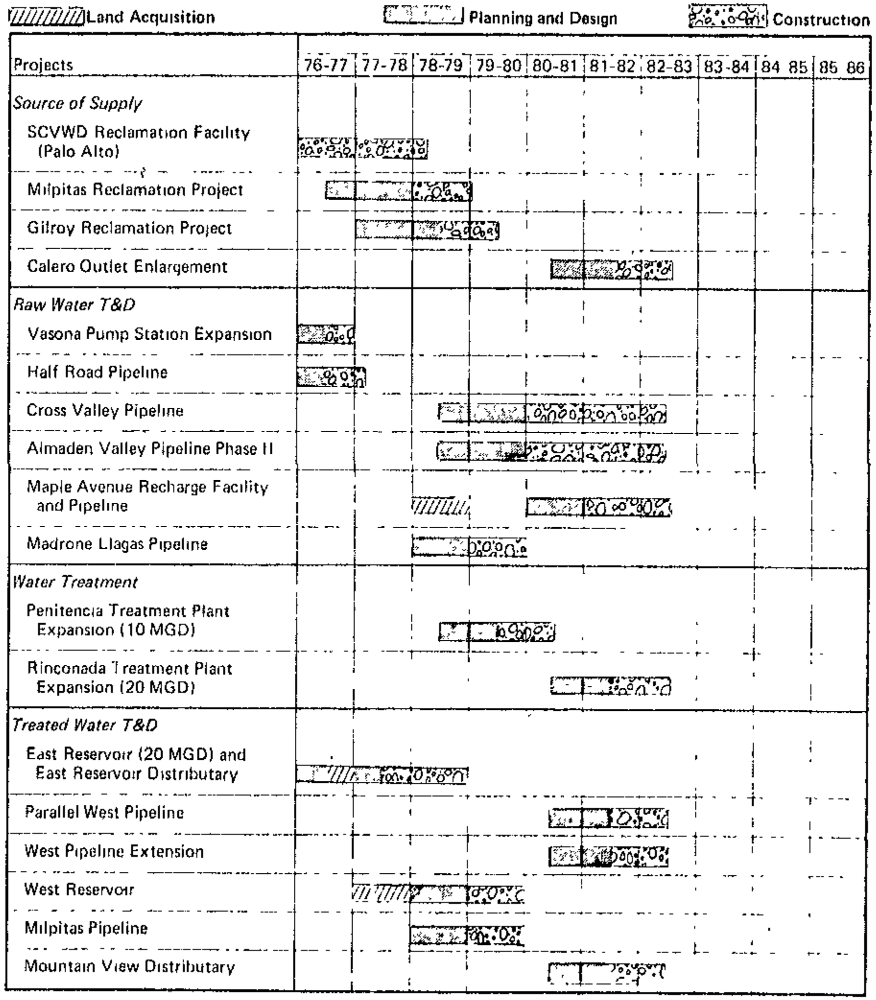
To continue providing an adequate supply of water that will meet the needs of the County, the District must maintain, improve, and expand the present In-County Water Distribution System.

A study of the System requirements was conducted by the District and the results were published in a report entitled: *Master Plan, Expansion of In-County Water Distribution System, December, 1975.* That report outlined the capital improvement needs of the District's water Utility Enterprise through the year 2020 based on supplemental water supplies from the San Felipe Division and projected savings in water use.

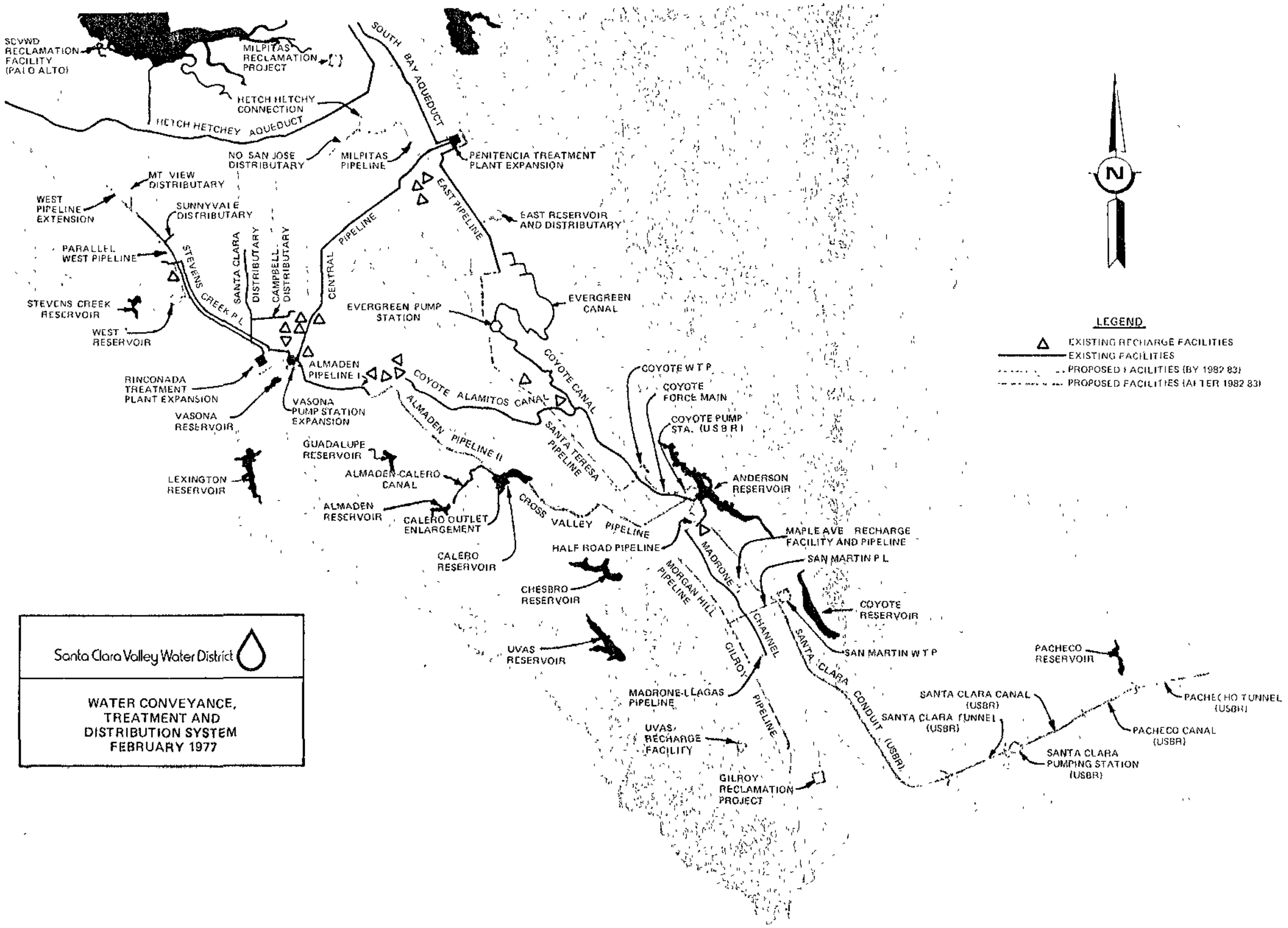
Since the publication of its Master Plan, the District has updated its projected Capital Construction Program. The table to the right shows the most recent schedule for construction of the major in-county facilities through 1985-86. The table shows the proposed land acquisition, planning, design, and construction phase of each facility. In this first phase of the District expansion program, the major facilities are scheduled for completion by January 1983, when water deliveries from the San Felipe Division are expected to begin.

The map on the following page shows the major facilities of the existing in-county system, the facilities listed in the proposed construction schedule and the facilities to be constructed after 1983.

PROJECTED NEW FACILITY CONSTRUCTION PROGRAM (Stage I)
FOR THE WATER UTILITY ENTERPRISE
1976-77 THROUGH 1985-86



. . .Improvement and Expansion



Santa Clara Valley Water District

WATER CONVEYANCE,
TREATMENT AND
DISTRIBUTION SYSTEM
FEBRUARY 1977

Sources of Revenue...

In 1971 the District's Board of Directors, upon recommendation of the Santa Clara County Water Commission, adopted the current water pricing policy. This pricing policy incorporated two important concepts in water resources management: (1) a water pooling concept in which water for a given zone of benefit is considered a single commodity with a uniform value regardless of source or cost and (2) a water management concept in which the user pays for benefits received.

Where it is possible to determine the benefits a user directly receives, the pricing policy established water charges. The District's water charges are:

- *Basic user charge,* which is associated with the benefit of water consumption, is made on every acre-foot of water that is pumped by the user or delivered by the District within Zones W-2, W-3.1, W-3.2, W-3.3, and W-3.5. There are two basic user rates, one for agricultural water and one for municipal and industrial (M & I) water. They pay for the costs of supplying and distributing local water and for purchasing and distributing imported water. They also pay for the capital costs of constructing in-county facilities either through actual payments of facility costs or through debt repayments from bonds and loans. The basic user charge rates are currently limited by the District Act.

- *Treated water surcharge,* which is levied in addition to the basic user charge on every acre-foot of treated water sold. It is associated with the benefit of receiving treated water. This charge is intended to pay primarily for the costs of treating and transporting the water. Revenue from this charge can also be pooled with other sources of revenue under the current pricing policy to cover specific costs. This charge is not limited by the District Act and is established annually by the District's Board of Directors.

Several benefits are general in nature and serve all or large areas of the county. According to the pricing policy, the cost of providing these benefits is to be repaid through ad valorem taxes. The major ad valorem taxes established by the pricing policy are:

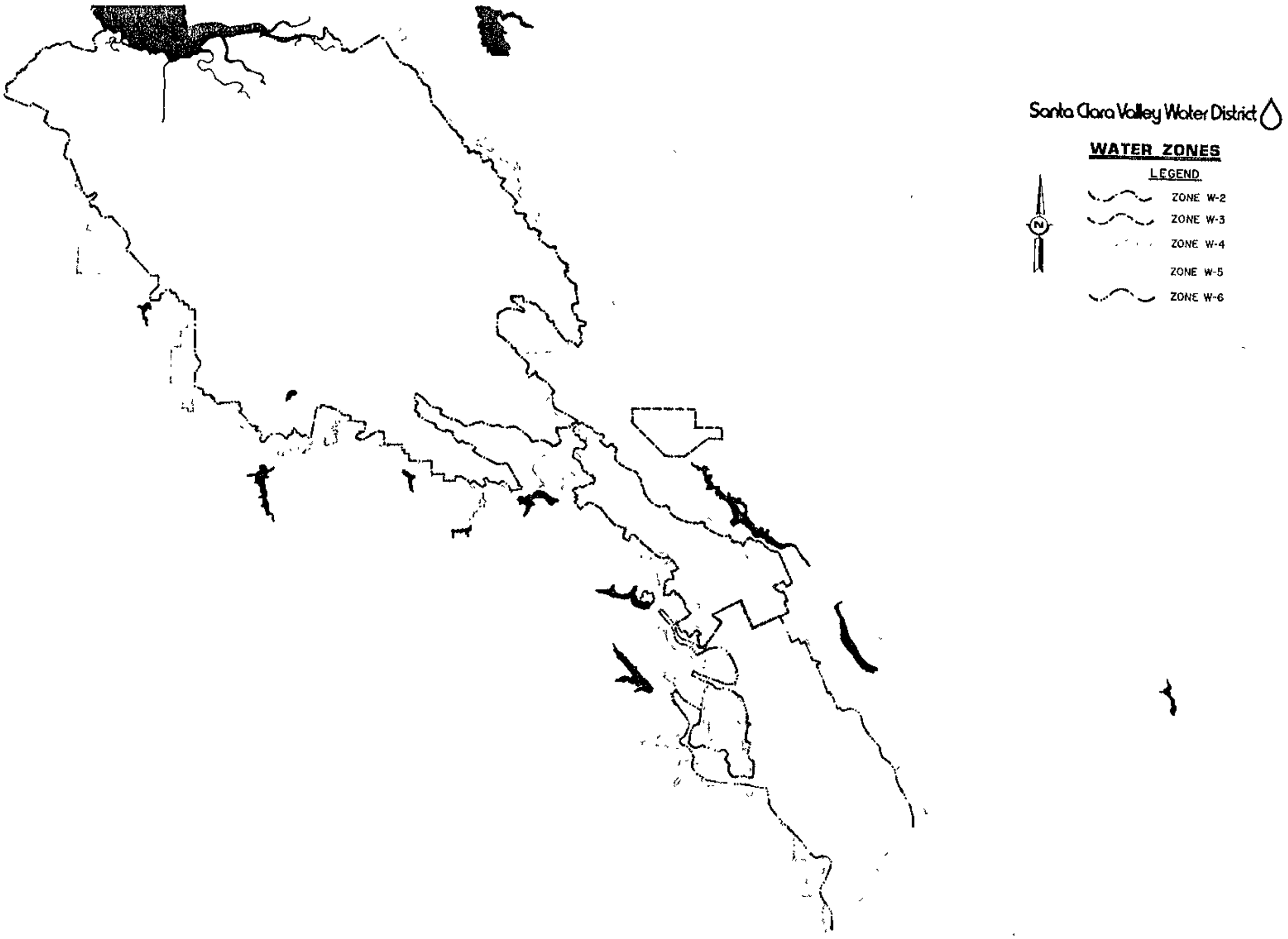
- *Countywide tax,* also called the Water Fund Tax, is levied to pay for those benefits which are countywide in nature. It pays for the capital cost of imported water facilities built to transport water into the county and it pays for the local reservoir costs allocated to recreation.

- *Service Area Tax,* which is levied within a specific zone of benefit. The service area tax levied in Zone W-4 is associated with the benefits provided from replenishing the overdrafted groundwater basin and from the additional capacity built into District treated water facilities to serve future water needs.

- *Zone W-3 Tax,* levied in Zone W-3 to pay for the general costs of supplying and distributing water in this area. This tax is in lieu of the basic user charge and is levied on the assessed valuation of land only.

Water charges apply in the North County and some small areas in the South County at the present time. In 1977, the District established two new water zones in the South County, Zone W-5 and Zone W-6. These two zones were established for registration of wells for groundwater management and to allocate costs of the San Felipe Division in future years. These new zones as well as the previously existing water zones are shown in the map to the right.

. . .Related to Costs of Providing Benefits



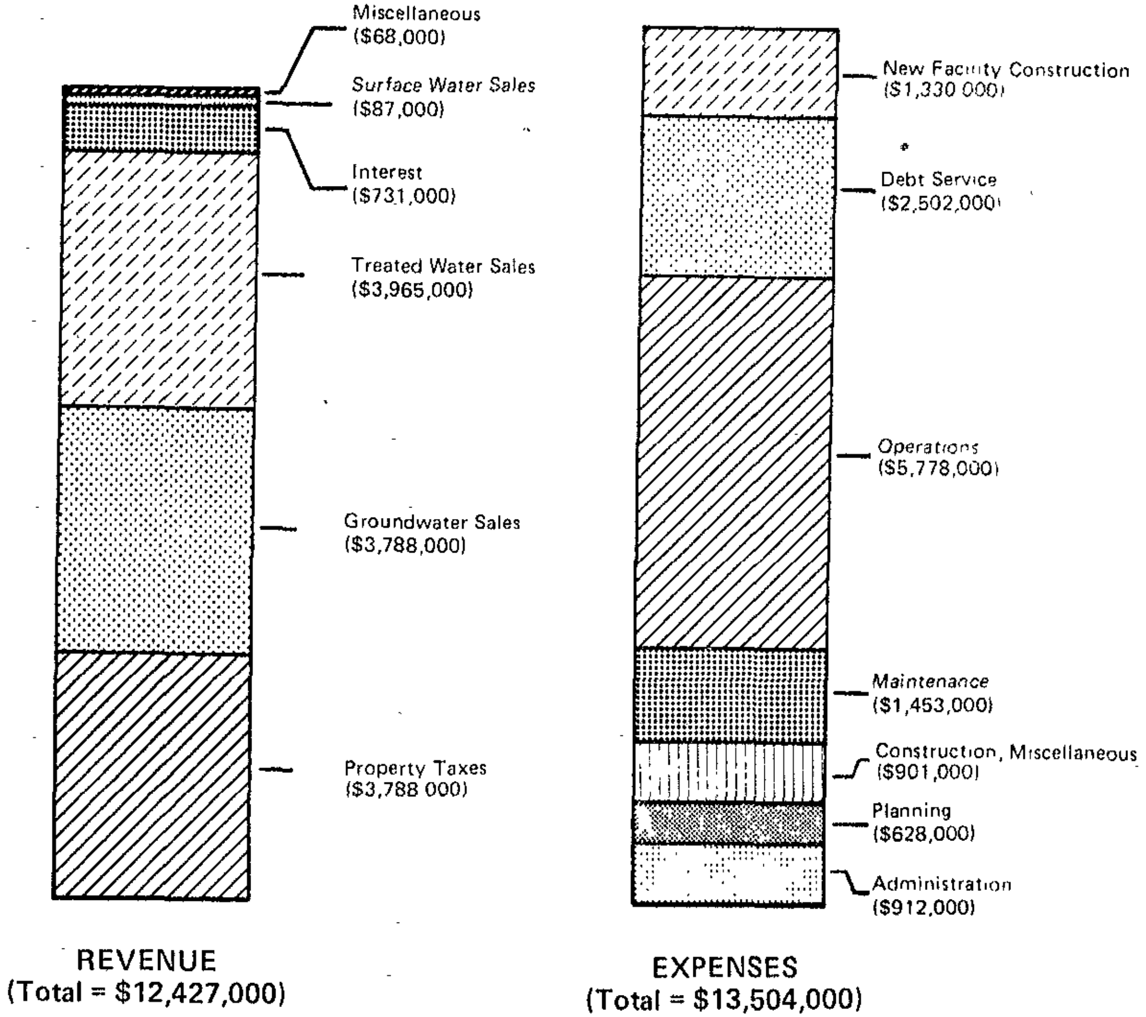
The Financial Picture...

The financial picture of the Water Utility Enterprise has been separated into three components: revenue, expenditures, and reserves.

The total annual revenue is made up of operating revenue from taxes and water charges as outlined in the pricing policy and of funds received from grants and bond sales. Revenue from bonds must be repaid from future operating revenues. The total annual operating revenue received by the District in 1975-76 is shown to the right. The graph also shows the various revenue components and their magnitudes.

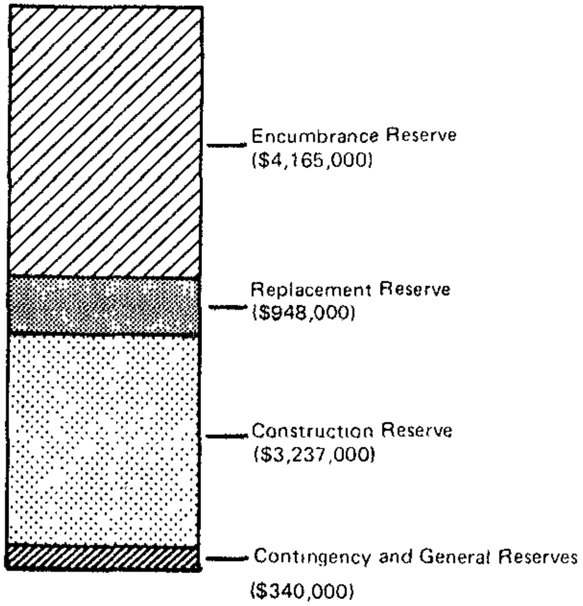
The total annual expenditures are made up of operating expenditures and expenditures for *capital construction of new* facilities. The annual operating expenditures comprise the program expenses for *Administration, Planning, Construction,* Maintenance and Operations. Debt service, which is the repayment of bonds used for capital *expenditures, is also considered* an operating expense. The 1975-76 operating expenditures are also shown to the right.

DURING THE 1975-76 FISCAL YEAR



. . .of the Water Utility Enterprise

END OF THE 1975-76 FISCAL YEAR



RESERVES
(Total = $8,690,000)

The third element of the financial picture is the reserves. The reserves consist of the net balance of funds after all of the revenues have been received and all expenditures have been met. The funds held in reserve are either earmarked for specific items or are available for future expenditure. The reserves are also used to balance revenue and expenditures for the five-year rate period mentioned in the pricing policy. That is, a portion of revenue in excess of expenditures during the first years of the rate period is put into reserves to meet any deficits that occur in the later years of the period.

The District's total Water Utility reserve at the end of 1975-76 was $8,690,000. The components of this reserve are shown to the left and a discussion of each of the Water Utility reserves is as follows:

- The *contingency and general reserves* are the amount of funds remaining after all expenditure obligations have been met or allowed for. The *contingency reserve* is a budgeted amount set aside to meet any unforeseen financial needs that may arise and the *general reserve* is the amount of funds available for future financial needs.

- The *construction reserve* contains funds set aside to pay capital construction costs of facilities that are planned in the near future but for which monies have not yet been approved by the Board of Directors. Monies in this reserve may have originated from bond funds, loans, or operating funds.

- The *replacement reserve* is a fund set up for replacement of equipment that has a predictable usefulness. The funds deposited in this reserve, rather than the actual disbursement amount, are a part of the annual operating expenses.

- The *encumbrance reserve* is the amount of money that has been set aside to meet the District's legal commitments.

Costs of New Facilities. . .

The projection of construction costs for the expansion of the In-County Water Distribution System through 1985-86 is shown in the table to the right. These costs include expenses which will be incurred for planning, land acquisition, design and construction of those facilities which constitute the first of three stages of expansion of the In-County Water Distribution System. The total program is described in the District's Master Plan, dated December 1975. The construction costs shown include a 10% per year increase to compensate for the increase in costs due to inflation.

The table also shows the assumed method of payment for each of the proposed facilities. Shown are those facilities that are assumed to be paid from "operating revenues" received from water charges and taxes, and "grant" revenues received from Federal and State agencies. Those facilities earmarked as "bond" are assumed to be financed from bonds, loans or a combination of bonds and loans. While the table indicates an assumed method of payment, the actual financing of each facility will depend on the final staging and cost of the facility and consideration of the most effective sources of funding available at the time of construction.

PROJECTED NEW FACILITY CONSTRUCTION COSTS (Stage I)
FOR THE WATER UTILITY ENTERPRISE
1976-77 THROUGH 1985-86
(Values in $1,000's and Escalated to Year(s) of Construction)

Projects	Projected Cost	Means Of Payment[1]	Year									
			76-77	77-78	78-79	79-80	80-81	81-82	82 83	83-84	84-85	85-86
Source of Supply												
SCVWD Reclamation Facility (Palo Alto)[2]	707 1472	Op. Rev. Grant	567 472	140 1000								
Milpitas Reclamation Project	40 1855 240	Op. Rev. Grant Bond	10 20 –	30 135 –	– 1700 240							
Gilroy Reclamation Project	10 1870 260	Op. Rev. Grant Bond			10 1870 260							
Calero Outlet Enlargement	1420	Bond					160	710	550			
Raw Water T&D												
Vasona Pump Station Expansion	*950*	*Op Rev*	*950*									
Half Road Pipeline	130	Op. Rev	120	10								
Cross Valley Pipeline	16040	Bond			1010	2230	4720	5200	2880			
Almaden Valley Pipeline Phase II	14210	Bond			890	1960	4200	4620	2540			
Maple Avenue Recharge Facility	2590	Bond			200		610	1150	630[4]			
Madrone-Llagas Pipeline	200	Bond			40	160						
Water Treatment												
Penitencia Treatment Plant Expansion (10 MGD)	260 2550	Op. Rev. Bond			260 50	1370	1130					
Rinconada Treatment Plant Expansion (20 MGD)	3970	Bond					400	1930	1640			
Treated Water T&D												
East Reservoir (20 MGD) and East Reservoir Distributary	4710 250	Op. Rev. Bond	560 –	1710 --	2440 250							
Parallel West Pipeline	3220	Bond					350	1570	1300			
West Pipeline Extension	800	Bond					100	400	300			
West Reservoir	850 2890	Op Rev. Bond		360 –	490 –	– 2890						
Milpitas Pipeline	1660	Bond			410	1250						
Mountain View Distributary	400	Bond					60	200	140			
TOTAL ALL PROJECTS	7657 5197 50700	Op. Rev. Grant Bond	2207 492	2250 1135	3200 3570 3350	9860	11730	15780	9980			
	63554	Total	2699	3385	10120	9860	11730	15780	9980			

[1] "Op. Rev." refers to monies received from Operating Revenues (e g , water charges and taxes.)
"Grant" refers to monies received from Federal and State Funded grants.
"Bond" refers to monies received from voter approved financing (e g., Revenue Bonds, Loans, etc)

[2] *$3,328,310 are encumbered from 1975-76 to be spent in 1976-77 in addition to the amounts shown.*

. . .and Methods of Financing Them

In the preparation of this report, the staff has assumed that the sale of "revenue bonds" would be used to pay for the capital costs of the proposed facilities:

- *Revenue Bonds* require a simple majority approval of the voters and are repaid by revenue produced by the water utility. The interest rate of revenue bonds is usually higher than general obligation bonds, since repayment is not secured by the taxing power of the agency issuing the bonds. Revenue bonds generally require a reserve of one year's principal and interest payment.

The bond program assumes voter approval no later than November 1978.

The tables below show the anticipated bond sale schedule and the resulting debt service to repay exisitng and proposed bonds.

PROPOSED BOND SALE SCHEDULE
(All Values in $1000's)

	Year									
REVENUE BONDS	76-77	77-78	78-79	79-80	80-81	81 82	82-83	83-84	84-85	85-86
Issue I			15,000							
Issue II					13,000					
Issue III						28,000				

PROPOSED DEBT SERVICE
EXISTING AND PROPOSED[1] REVENUE BOND PROGRAM
(All Values in $1000's)

	Year									
DEBT SERVICE	76-77	77-78	78-79	79-80	80-81	81-82	82-83	83-84	84-85	85-86
Existing	2509	2502	2479	2484	2482	2500	2179	2157	2140	2141
Issue I (Proposed 1979)	0	0	0	1287	1287	1287	1287	1287	1287	1287
Issue II (Proposed 1980)	0	0	0	0	0	1115	1115	1115	1115	1115
Issue III (Proposed 1981)	0	0	0	0	0	0	2402	2402	2402	2402
Total	2509	2502	2479	3771	3769	4902	6983	6961	6944	6945

[1] Proposed Bond Program assumes Revenue Bonds at an 8% interest rate and a 35 year repayment period

Other alternative methods of financing available to the District to pay for the construction of the proposed facilities include general obligation bonds, federal loans, and a pay-as-you-go alternative.

- *General Obligation Bonds* require a 2/3 approval of the voters and repayment is guaranteed by the taxing power of the issuing agency although the bonds may be repaid by revenue from the projects constructed. The interest rate for the general obligation bonds is usually lower than for revenue bonds, since the taxes can be raised by the agency issuing the bonds.

- *Federal Loans* are available through the U.S. Bureau of Reclamation for projects which provide water for recreation as well as for municipal, industrial and agricultural uses. The In-County Distribution System may qualify for one or several of these loans. The amount of the loans is usually limited and voter approval may be required by the Federal Government for some of these loans.

- *Pay-as-you-go Financing* — This alternative would generate revenue through the District's taxing and water charge levying powers. The taxes and water rates would be increased to their maximum levels allowed by law and would possibly generate 50 million dollars within the next ten years as outlined in the District's report entitled *Analysis of Districts Ability to Distribute Water from the San Felipe Project without Bond Financing.*

The following sections will look at the financial picture of the water utility for the current and the next five-year rate periods under a revenue bond program.

Financial Projections. . .

In 1976 the District Board of Directors, upon recommendation of the Santa Clara County Water Commission, established water charges for fiscal year 1976-77, the first year of the current rate period. The basic user charges established were $34.00 per acre-foot for municipal and industrial water and $8.50 per acre-foot for agricultural water. The treated water surcharge rate was set at $41.00 per acre-foot. These rates are intended to be in effect for the five-year period through 1980-81. It is anticipated that they will provide sufficient revenue to operate and maintain the existing system and to construct additional facilities as outlined in the construction schedule on page 13.

The revenues are projected using the existing tax and water rates. The expenditures are based on preliminary estimates which assume an inflation rate of 7½% per year for operation and maintenance costs and 10% per year for construction costs. Financing of major capital construction assumed a revenue bond program as outlined on page 14.

Excess funds generated during the first years of the rate period will be transferred to the general reserve fund to be used during the later years of the period when the annual operating expenditures are expected to exceed the annual operating revenue.

The financial picture as projected for the current rate period is shown in the table to the right.

PROJECTED REVENUE AND EXPENDITURES
1976-77 THROUGH 1980-81
(All Values in $1,000's)

	1976-77	*1977-78*	*1978-79*	*1979-80*	*1980-81*
Cash at Beginning of Year	4,526[1]	6,286	6,575	16,909	7,767
Operating Revenue					
Property Taxes	4,251	4,684	5,157	5,675	6,246
Interest	650	450	821	863	602
Agreements and Advances	0	5	5	5	5
Groundwater Sales	4,409	4,726	4,922	5,117	5,312
Surface Water Sales	121	120	120	120	120
Treated Water Sales	4,575	4,752	4,818	4,865	4,906
Miscellaneous	35	200	200	200	200
Subtotal	14,041	14,937	16,043	16,845	17,391
Bond Sales	0	0	15,000	0	13,000
Grants	3,502	2,222	3,570	0	0
Total Cash Available	22,069	23,445	41,188	33,754	38,158
Operating Expenditures					
Administration	1,320	1,292	1,325	1,425	1,532
Planning	784	750	897	878	889
Construction	481	450	462	497	534
Maintenance	1,598	2,073	2,014	2,187	2,452
Operations	6,392	6,418	6,982	7,369	7,798
Debt Service	2,509	2,502	2,479	3,771	3,773
Subtotal	13,084	13,485	14,159	16,127	16,978
New Facility Construction	2,699	3,385	10,120	9,860	11,730
Reserves (Yr. End Balance)	6,286	6,575	16,909	7,767	9,450
Total Expenditures and Reserves	22,069	23,445	41,188	33,754	38,158

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[1] Beginning cash for 1976-77 excludes encumbrances from 1975-76.

[2] See page 13 for costs of individual facilities.

. . .for the Current Rate Period
(1976-77 through 1980-81)

The water charge and tax rates for the current rate period and the corresponding water use projections are shown in the tables below.

PROJECTED WATER CHARGE AND TAX RATES
1976-77 THROUGH 1980-81

	1976-77	1977-78	1978-79	1979-80	1980-81
Water Charge Rates ($/Acre-Foot)					
Basic User Charge					
Municipal & Industrial Water	34.00	34.00	34.00	34.00	34.00
Agricultural Water	8 50	8.50	8 50	8.50	8.50
Treated Water Surcharge	41.00	41.00	41.00	41.00	41.00
Tax Rates ($/$100 Assessed Valuation)					
Water Fund Tax (Co. Wide)	.07	.07	.07	.07	.07
Zone W-3 Tax (Land Only)	.438	.438	.438	.438	.438
Zone W-4 Tax	.017	.017	.017	.017	.017

PROJECTED WATER USE [1]
1976-77 THROUGH 1980-81

Water Use (1,000 Acre-Feet)	1976-77	1977-78	1978-79	1979-80	1980-81
Groundwater					
Municipal & Industrial Water	129	135	141	147	153
Agricultural Water	16	16	15	14	13
Surface Water					
Municipal & Industrial Water	2	2	2	2	2
Agricultural Water	3	3	3	3	3
Treated Water (Municipal & Industrial Water)					
Contract	53	57	60	62	64
Non-Contract	13	9	6	4	2
Total Water Use:					
Municipal & Industrial Water	197	203	209	215	221
Agricultural Water	19	19	18	17	16
Total	216	222	227	232	237

[1] Does not include Hetch-Hetchy deliveries and supplies developed by San Jose

The annual cash flow of operating funds and a detailed projection of the year-end reserves for the five-year period ending 1980-81 are shown in the tables below.

ESTIMATED CASH FLOW OF OPERATING FUNDS
1976-77 THROUGH 1980-81
(All Values in $1,000's)

	1976-77	1977-78	1978-79	1979-80	1980-81
Operating Revenue (+)	14,041	14,937	16,043	16,845	17,391
Operating Expenditures (-)	13,084	13,485	14,159	16,127	16,978
Required Contributions to Reserves,					
Contingency, General (-)	104	656	100	-0-	100
Replacement (-)	174	150	150	150	150
Annual Surplus or Deficit	679	646	1,634	568	163

DETAIL OF ESTIMATED YEAR-END RESERVES
1976-77 THROUGH 1980-81
(All Values in $1,000's)

	1976-77	1977-78	1978-79	1979-80	1980-81
Operating Reserve					
General	3,620	1,005	2,639	3,207	3,370
Contingency	444	1,100	1,200	1,200	1,300
Subtotal	4,064	2,105	3,839	4,407	4,670
Revenue Bond Contingency [1]	-0-	-0-	1,287	1,287	2,402
Construction Reserve					
Operating Funds	1,100	3,200	-0-	-0-	-0-
Bond Funds	-0-	-0-	10,363	503	658
Subtotal	1,100	3,200	10,363	503	658
Replacement Reserve	1,122	1,270	1,420	1,570	1,720
Encumbrance Reserve	-0-	-0-	-0-	-0-	-0-
Total Reserves	6,286	6,575	16,909	7,767	9,450

[1] The contingency reserve required for Revenue Bonds was assumed paid from Bond Sale Revenue

Financial Projections. . .

Projections of Water Utility revenue and expenses have also been made for the next five-year rate period ending in 1985-86. These projections were based on inflation rates of 7½% per year for operations and maintenance and 10 % per year for capital construction. The projected water rates are those estimated to be necessary to produce revenues sufficient to balance revenues with anticipated expenditures and to maintain adequate reserves.

In addition to the repayment of new bond obligations, major cost increases anticipated during the next rate period are for the purchases of imported water. The cost of water from the South Bay Aqueduct is expected to approximately double due to projected increased power costs. During this period, the District will also begin to purchase water from the U. S. Bureau of Reclamation's San Felipe Division.

By 1982-83, with the delivery of San Felipe water assured, it is assumed that the District will remove the Zone W-3 ad valorem tax and begin to levy water charges in the South County. To recover costs associated with the delivery of San Felipe water, it is estimated that a basic user charge of $6.00 per acre-foot for agricultural water and $24.00 per acre-foot for municipal and industrial water would be levied on all groundwater pumped in Zone W-5 of the South County. The Zone W-5 rates were determined so as to generate an income that would meet the operating expenses incurred in the South County, including general maintenance and operations, purchases of San Felipe water, and a portion of the District Debt Service associated with new facilities.

The projected revenue and expenses for the next rate period are shown in the table to the right.

PROJECTED REVENUE AND EXPENDITURES
1981-82 THROUGH 1985-86
(All Values in $1,000's)

	1981-82	1982-83	1983-84	1984-85	1985-86
Cash at Beginning of Year	9,450	27,393	18,573	17,655	15,832
Operating Revenue					
Property Taxes	6,879	7,464	8,083	8,897	9,792
Interest	1,288	1,607	1,266	1,171	1,029
Agreements & Advances	5	5	5	5	5
Groundwater Sales–North Co.	8,654	8,748	8,734	8,734	8,721
Groundwater Sales–South Co.	-0-	432	864	894	924
Surface Water Sales–North Co.	206	206	206	206	206
Surface Water Sales–South Co.	-0-	7	14	14	14
Treated Water Sales–North Co.	7,875	8,280	9,360	10,080	10,800
Miscellaneous	250	250	250	250	250
Subtotal	25,157	26,999	28,782	30,251	31,741
Bond Sales	28,000	-0-	-0-	-0-	-0-
Grants	-0-	-0-	-0-	-0-	-0-
Total Cash Available	62,606	54,392	47,355	47,905	47,573
Operating Expenditures					
North County					
Administration	1,688	1,814	1,985	2,178	2,411
Planning	983	974	1,008	1,247	1,268
Construction	1,005	1,679	1,200	1,248	1,422
Maintenance	2,606	2,857	3,183	3,596	3,932
Operations	8,249	11,161	14,523	15,934	16,974
Debt Service	4,902	6,974	6,722	6,705	6,706
Subtotal	19,433	25,459	28,621	30,908	32,713
South County					
Administration/Planning	-0-	22	54	57	60
Operations/Maintenance	-0-	349	786	870	952
Debt Service	-0-	9	239	239	239
Subtotal	-0-	380	1,079	1,166	1,251
New Facility Construction [1]	15,780	9,980	-0-	-0-	-0-
Reserves (Year end balance)	27,393	18,573	17,655	15,832	13,609
Total Expenditures and Reserves	62,606	54,392	47,355	47,905	47,573

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[1] See page 13 for capital costs of individual facilities.

. . .for the Next Rate Period
(1981-82 through 1985-86)

The projected water charge and tax rates as well as the projected water use amounts for the North and South County are shown in the tables at the left.

The projected annual cash flow of operating funds and year end reserves for this rate period are shown in the tables below.

PROJECTED WATER CHARGE AND TAX RATES
1981-82 THROUGH 1985-86

	1981-82	1982-83	1983-84	1984-85	1985-86
Water Charge Rates (S/Acre-Foot)					
North County					
Basic User Charge					
Municipal & Industrial Water	54 00	54.00	54 00	54 00	54 00
Agricultural Water	13.50	13 50	13 50	13 50	13.50
Treated Water Surcharge	66 00	66 00	66 00	66 00	66 00
South County					
Basic User Charge					
Municipal & Industrial Water	-0-	24.00	24.00	24.00	24.00
Agricultural Water	-0-	6 00	6 00	6 00	6 00
Tax Rates (S/$100 Assessed Valuation)					
Water Fund Tax (Co Wide)	070	070	070	.070	070
Zone W-3 Tax (Land Only)	438	-0-	-0-	-0-	-0-
Zone W-4 Tax	017	017	.017	017	017

PROJECTED WATER USE[1]
1981-82 THROUGH 1985-86
(1000 Acre Feet)

	1981-82	1982-83	1983-84	1984-85	1985-86
North County					
Groundwater					
Municipal & Industrial	157	159	159	159	159
Agricultural Water	13	12	11	11	10
Surface Water					
Municipal & Industrial	2	2	2	2	2
Agricultural Water	3	3	3	3	3
Treated Water (Municipal & Industrial Water)					
Contract	64	69	78	84	90
Non-Contract	2	-0-	-0-	-0-	-0-
Total Water Use North County					
Municipal & Industrial	225	230	239	245	251
Agricultural Water	16	15	14	14	13
Total	241	245	253	259	264
South County					
Groundwater					
Municipal & Industrial	12	13	14	15	16
Agricultural Water	86	87	88	89	90
Surface Water					
Municipal & Industrial	0	0	0	0	0
Agricultural Water	1	1	1	1	1
Total Water Use South County					
Municipal & Industrial	12	13	14	15	16
Agricultural Water	87	88	89	90	91
Total	99	101	103	105	107

ESTIMATED ANNUAL CASH FLOW OF OPERATING FUNDS
1981-82 THROUGH 1985-86
(All Values In $1,000's)

	1981-82	1982-83	1983-84	1984-85	1985-86
Operating Revenue (+)	25,157	26,999	28,782	30,251	31,741
Operating Expenditures (-)	19,433	25,839	29,700	32,074	33,964
Required Contributions to Reserves.					
Contingency, Operating (-)	100	500	400	200	200
Replacement (-)	200	200	200	200	200
Annual Surplus/Deficit	5,424	460	-1,518	-2,223	-2,623

DETAIL OF ESTIMATED YEAR-END RESERVES
1981-82 THROUGH 1985-86
(All Values In $1,000's)

	1981-82	1982-83	1983-84	1984-85	1985-86
Operating Reserve					
General	8,843	9,303	7,785	5,562	2,939
Contingency	1,400	1,900	2,300	2,500	2,700
Subtotal	10,243	11,203	10,085	8,062	5,639
Revenue Bond Contingency[1]	4,804	4,804	4,804	4,804	4,804
Construction Reserve					
Operating Funds	-0-	-0-	-0-	-0-	-0-
Bond Funds	10,476	496	496	496	496
Subtotal	10,476	496	496	496	496
Replacement Reserve	1,870	2,070	2,270	2,470	2,670
Encumbrance Reserve	-0-	-0-	-0-	-0-	-0-
Total Reserves	27,393	18,573	17,655	15,832	13,609

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[1] Does not include Hetch Hetchy deliveries and supplies developed by San Jose Water Works, also based on average annual rainfall

[1] The contingency reserve required for Revenue Bonds was assumed paid from

Summary. . .

During the next four years, water needs in Santa Clara County will exceed current supplies. An additional source of water for the county is planned to be available from the San Felipe Division by January 1983. In order to make use of this additional water when delivery begins, the District plans on expanding its existing treatment, distribution and groundwater recharge facilities.

For the next fiscal year (1977-78), the District's major expenditures in the Water Utility Enterprise will be for the operation and maintenance of existing facilities and for the continuation of the District's present planning and construction programs. The planning program will consist primarily of refinements of the water resources master plan, wastewater reclamation studies, water quality studies and operation studies. In the construction program, major expenditures will be for the Palo Alto Reclamation Plant and for the East Reservoir.

During the next six years, major expenses in the District's construction program will be for the Cross Valley System to convey water from the San Felipe Division for treatment and recharge in the North County, for the expansion of existing treatment plants and treated water distribution systems to provide service to the cities of Mountain View and Milpitas, and for the purchase of land for the development of an offstream groundwater recharge facility in the South County.

. . .and Recommendations

Water charges for the next fiscal year in Zones W-2, W-3.1, W-3.2, W-3.3 and W-3.5 are recommended to remain at the current rates. The recommended rates for 1977–78 are summarized in the table below. No charges are proposed for Zones W-5 and W-6.

RECOMMENDED WATER CHARGES[1]
FOR
FISCAL YEAR 1977–78

Basic User Water Charges	
Agricultural Water:	$ 8.50/Acre-Foot
Nonagricultural Water (M & I):	$34.00/Acre-Foot
Treated Water Surcharge:	$41.00/Acre-Foot

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[1] These water charge rates are intended to be in effect through 1980-81.